

REMARKS

Claims 1-4 and 11-13 are now pending in the application. By this paper, Claims 2, 3, 12, and 13 have been amended. The basis for these amendments can be found throughout the specification, claims, and drawings originally filed. No new matter has been added. The preceding amendments and the following remarks are believed to be fully responsive to the outstanding Office Action and are believed to place the application in condition for allowance. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

CLAM OBJECTIONS

Claims 3 and 13 stand objected to, as being of improper dependent form for failing to further limit the subject matter of a previous claims.

Applicant respectfully submits that this rejection is moot in light of the above amendments to Claims 3 and 13. Reconsideration and withdrawal of the objections is respectfully requested.

VOLUNTARY AMENDMENTS

Applicant has voluntarily amended Claims 2 and 12 to correct typographical errors. Because the amendments to Claims 2 and 12 were made to correct typographical errors, such amendments are non-narrowing amendments.

REJECTION UNDER 35 U.S.C. § 103

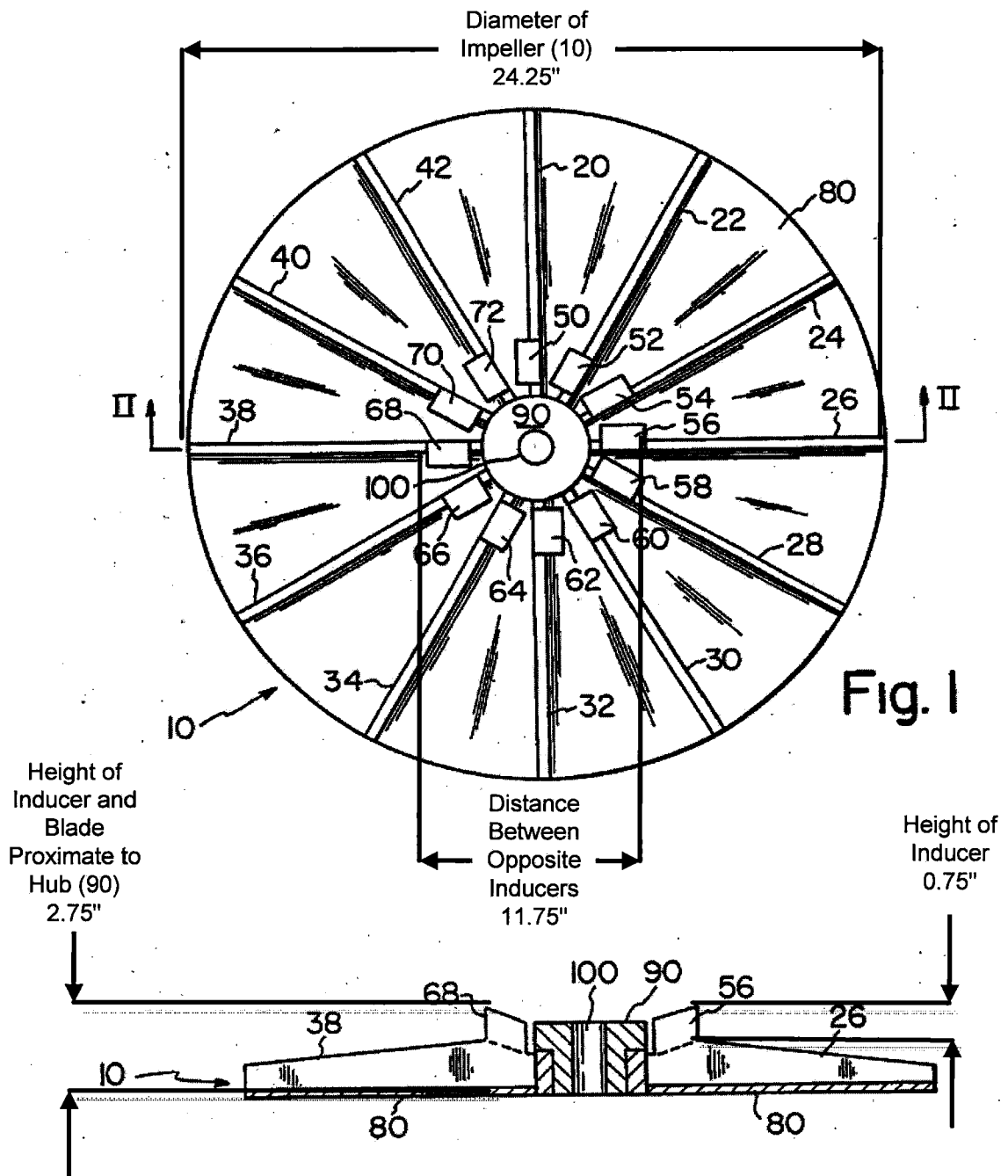
Claims 1-4 and 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Choi et al. (U.S. Pat. No. 6,499,955) in view of Banyay (U.S. Pat. No. 4,708,593). This rejection is respectfully traversed.

Applicant respectfully submits that the combination of Choi and Banyay fails to teach or suggest an impeller including an inducer formed proximate a leading edge of each blade having a height component in an axial direction (Z) that is substantially five to seven percent of an outer diameter of the impeller.

The Examiner asserts that Banyay discloses an inducer having a height of $\frac{3}{4}$ " and an impeller having a diameter of $11\frac{3}{4}$ ", which results in an inducer having a height component in an axial direction (Z) that is 6.383% of the outer diameter of the impeller (i.e., $0.75/11.75 = 0.06383$), which falls within the claimed range of independent Claims 1 and 11. Applicant respectfully submits that the Examiner is not using the diameter of the impeller in the above calculation and that if the actual diameter of the impeller is used, Choi fails to teach or suggest the claimed range.

Choi discloses an impeller (10) including a disc-shaped web (80), a plurality of blades (20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42), and a plurality of inducers (50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, and 72). See Choi at Col. 2, Ins. 62-64 and FIGS. 1 and 2. Choi provides an example identifying the web (80) as including a diameter of $24\frac{1}{4}$ ", the blades (20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42) as including a chord of 2" proximate to a hub (90), and the inducer (50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, and 72) as including a height of $\frac{3}{4}$ ". See Choi at Col. 4, Ins 33-38. Choi also discloses that the impeller (10) includes a diameter measured between opposite inducers of $11\frac{3}{4}$ ".

See Choi at Col. 4, Ins. 47-48. FIGS. 1 and 2 of Choi are reproduced below in relevant part illustrating the above dimensions.



Based on the foregoing dimensions, Applicant respectfully submits that the diameter of the impeller (10) is 24 1/4" rather than 11 3/4", as asserted by the Examiner. As recited by independent Claim 1 and 11, the inducer includes a height component in an axial direction (Z) that is substantially five to seven percent of an outer diameter of said impeller. The 11 3/4" dimension used by the Examiner is not the outer diameter of the impeller (10). Rather, the 11 3/4" dimension is the distance between opposite inducers. See Choi at Col. 4, Ins. 47-48 and as indicated in the above reproduction of FIG. 1.

If the height of the inducer is 3/4" and the diameter of the impeller (10) is 24 1/4", the height of the inducer is 3.09% (i.e., $.75/24.25 = 0.0309$) of an outer diameter of the impeller (10). Even if the height of the inducer is taken as the total height of the blade plus the height of the inducer at the location of the inducer along the length of the blade (i.e., $2" + 3/4"$), the height of the inducer is 11.34% (i.e., $2.75/24.25 = 0.1134$) of an outer diameter of the impeller (10).

Because 3.09% and 11.34% do not fall within the claimed range, Applicant respectfully submits that independent Claims 1 and 11, as well as Claims 2-4, 12, and 13, respectively dependent therefrom, are in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is

believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: 4-24-07

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